

CLAIM AMENDMENTS

1. (Currently Amended) An inverter device comprising:

a direct-current power supply having a positive electrode terminal and a negative electrode terminal;

a first set of switching elements, including a plurality of switching elements connected in parallel;

a second set of switching elements, including a plurality of switching elements connected in parallel, wherein each of the switching elements of the first set ~~being is~~ connected in series with a corresponding one of the switching elements of the second set to form a pair of switching elements including a first switching element and a second switching element, between the positive electrode terminal and the negative electrode terminal of the direct-current power supply;

a plurality of fly-wheel diodes, ~~each of the a respective fly-wheel diodes diode~~ being connected to each of the first switching element and the second switching element, wherein the first switching element and the second switching element ~~being are~~ turned on and off alternately, while changing a time ratio, and a signal output at a node between the first switching element and the second switching element ~~being is~~ supplied to an ~~inductance~~ inductive load;

a first transistor that receives a control signal for turning on the first switching element, applies a power supply voltage to a control electrode of the first switching element, and starts charging of a miller capacitance of the first switching element;

a detection circuit that detects a timing at which a voltage of the control electrode of the first switching element reaches a logic inversion voltage, while the control signal for turning on the first switching element is being received, and outputs a detection signal indicating the timing; and

a second transistor that receives the detection signal, applies the power supply voltage to the control electrode of the first switching element, and accelerates charging of the miller capacitance.

2. (Currently Amended) The inverter device according to claim 1, wherein

the first switching element and the second switching element are negative metal-oxide semiconductor field-effect transistors, respectively,

the first transistor and the second transistor are positive metal-oxide semiconductor transistors, respectively, and

the detection circuit includes an EXCLUSIVE-OR circuit and a NAND circuit.

3. (Currently Amended) The inverter device according to claim 1, ~~wherein including three of the first switching element and the second switching element are provided in number of three units respectively, elements and wherein the inductance inductive load is a three-phase motor.~~

4. (Original) The inverter device according to claim 1, further comprising a third transistor connected between the first transistor and ground.

5. (Currently Amended) The inverter device according to claim 4, further comprising an inverter circuit that receives the control signal and supplies the control signal to the first transistor, the detection circuit, and the third transistor.

6. (Currently Amended) An inverter device comprising:

a direct-current power supply having a positive electrode terminal and a negative electrode terminal;

a first set of switching elements, including a plurality of switching elements connected in parallel;

a second set of switching elements, including a plurality of switching elements connected in parallel, wherein each of the switching elements of the first set ~~being is~~ connected in series with a corresponding one of the switching elements of the second set to form a pair of switching elements including a first switching element and a second switching element, between the positive electrode terminal and the negative electrode terminal of the direct-current power supply;

a plurality of fly-wheel diodes, ~~each of the a respective fly-wheel diodes diode~~ being connected to each of the first switching element and the second switching element, wherein the first switching element and the second switching element ~~being are~~ turned on and off alternately, while changing a time ratio, and a signal output at a node between the first switching element and the second switching element ~~being is~~ supplied to an ~~inductance inductive~~ load;

a first transistor that receives a control signal for turning on the first switching element, applies a power supply voltage to a control electrode of the first switching element, and starts charging of a miller capacitance of the first switching element;

a detection circuit that detects a timing at which a potential difference between both signal electrodes of the first switching element reaches a logic inversion voltage, while the control signal for turning on the first switching element is being received, and outputs a detection signal indicating the timing; and

a second transistor that receives the detection signal, applies the power supply

voltage to the control electrode of the first switching element, and accelerates charging of the miller capacitance.

7. (Currently Amended) The inverter device according to claim 6, wherein
the first switching element and the second switching element are negative
metal-oxide semiconductor field-effect transistors, respectively,
the first transistor and the second transistor are positive metal-oxide
semiconductor transistors, respectively, and
the detection circuit includes a comparator circuit and a NAND circuit.

8. (Currently Amended) The inverter device according to claim 6, wherein including
three of the first switching element and the second switching element are provided in number
~~of three units respectively elements, and wherein the inductance inductive load is a three-~~
phase motor.

9. (Original) The inverter device according to claim 6, further comprising a third
transistor connected between the first transistor and ground.

10. (Currently Amended) The inverter device according to claim 9, further
comprising an inverter circuit that receives the control signal and supplies the control signal
to the first transistor, the detection circuit, and the third transistor.